

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF TEXAS  
FORT WORTH DIVISION

DAVID and TRACEY JACKSON	§	
	§	
VS.	§	CIVIL ACTION 4:06-CV-190-Y
	§	
BLACK & DECKER (US), INC.	§	

ORDER DENYING MOTION TO STRIKE

This case arises out of a fire that occurred in the garage of a home owned by plaintiffs David and Tracey Jackson. A pivotal issue in this case is the cause and origin of the fire. The Jacksons contend a malfunctioning battery-powered hedge trimmer manufactured by defendant Black & Decker (US), Incorporated ("Black & Decker"), caused the fire. Black & Decker, of course, denies this.

Black & Decker has filed a motion (doc. #49) to exclude the testimony of the Jacksons' expert, Lacie Smith, under Federal Rule of Evidence 702 and *Daubert v. Merrel Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), and its progeny. After review, the Court concludes that the motion should be DENIED.

I. Factual Background

In the late evening of May 8, 2005, a fire broke out at the Jacksons' residence. Their fire alarm sounded, and the Arlington Fire Department responded to the scene and extinguished the fire. The Arlington Fire Department prepared an incident report and determined that the fire originated between the west wall of the Jacksons' garage and a 2000 Toyota Sienna parked in the garage. The cause of the fire was classified as undetermined.

The Jacksons stated that their Black & Decker battery-powered hedge trimmer was located between the Toyota Sienna and the west wall of the garage. David Jackson stated the trimmer was hanging on a hook along the west wall of the garage. Tracey Jackson said the trimmer was on the floor next to the west wall.<sup>1</sup>

Two days after the fire, All State Insurance Company retained Rimkus Consulting Group, Incorporated ("Rimkus"), for purposes of investigating the fire. Bryan Patrick, an employee of Rimkus, conducted an on-site examination of the Jacksons' residence using the NFPA 921 accepted method for investigating fires. He examined and photographed the residence, interviewed Tracey Jackson<sup>2</sup>, and reviewed the incident report prepared by the Arlington Fire Department. Based on that, Patrick concluded that the fire's point of origin was at the base of the west wall of the garage below an electrical duplex outlet; that the fire was caused by a malfunctioning battery-powered hedge trimmer manufactured by Black and Decker; that the fuel for the fire was the trimmer's plastic case; that all other possible causes of the fire had been eliminated; and that the fire was accidental. (Pls.' App. at Ex. A, 5.)

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<sup>1</sup> Tracey Jackson's statements regarding the trimmer have been inconsistent. Two days after the fire, she said the trimmer was on the floor next to the west wall of the garage and plugged into an outlet on the west wall to charge the battery pack. She claimed she used the trimmer the week prior depleting all of its energy. She said the trimmer had been plugged in charging for approximately a week before the fire. Nearly two years later at her deposition, Tracey said the trimmer was on the east wall of the garage plugged in and charging. She was uncertain as to the last time the trimmer had been used and the last time the trimmer had been charged. She also could not recall how long the trimmer had been charging at the time of fire.

<sup>2</sup> At this interview, Tracey Jackson told Patrick that the trimmer had been plugged into the west wall receptacle about one week prior to the fire.

Nearly two years later, the Jacksons' expert, Lacie Smith, who is also employed with Rimkus, "performed [a] potentially destructive examination of the retained artifacts" from the fire. (*Id.* at Ex. B, 3.) From this examination, Smith reaffirmed the above conclusions and further concluded that a loose resistive connection of the trimmer's battery to the charging adapter caused the fire. Smith further opined that he could not rule out a partial short circuit in one or more of the rechargeable batteries as a contributing cause of the fire.

In April 2006, Black and Decker retained Packer Engineering, Incorporated ("Packer"), to investigate the cause of the fire. Packer's initial examination included reviewing the Rimkus report made after the on-site examination, and examining the trimmer, the charging unit for the trimmer, and the electrical-duplex receptacle from the west wall. Packer also reviewed all the materials, photographs, and documentation associated with the fire.

Packer concluded that the trimmer was not the cause of the fire. Packer opined that the damage sustained by the trimmer, its components, and the charging unit resulted from exposure to heat from an on-going external fire and that there was no indication of electrical-fault activity with the trimmer, its components, or the charging unit. Packer concluded that the probable cause of the fire was the electrical-duplex receptacle, which was located on the west wall, because, Packer opined, it exhibited signs that it malfunctioned. After participating in the destructive examination of the trimmer, Packer reaffirmed its conclusion that the trimmer,

its components, and the charging unit did not cause the fire.

## II. Analysis

### A. Standard

As a starting point, Federal Rule of Evidence 702 provides,

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education may testify thereto in the form of an opinion or otherwise . . . .

For expert testimony to be admissible, Rule 702 requires that the testimony be based on sufficient facts or data and that the testimony be based on reliable principles and methods that the witness applied reliably to the facts of the case.

Rule 702 "establishes a standard of evidentiary reliability." *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 590 (1993). The Court is required to ensure that expert testimony has "reliability and relevancy" and "make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field." *Kumho Tire Company v. Carmichael*, 526 U.S. 137, 152 (1999).

In *Daubert*, the Supreme Court articulated four factors that may aid a district court in determining whether expert testimony is

sufficiently reliable: (1) whether an expert's theory, technique or conclusion can be or has been tested; (2) whether it has been subjected to peer review and publication; (3) with respect to a particular technique, whether there is a high known or potential rate for error and whether there are standards controlling the technique's operation; and (4) whether it enjoys general acceptance in a relevant scientific community. 509 U.S. at 592-94. "*Daubert* makes clear that the factors it mentions do *not* constitute a definitive checklist or test." *Kumho Tire*, 526 U.S. at 150 (emphasis in original)(internal quotations and citations omitted). A district court enjoys "considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable." *Id.* at 152.

Expert testimony is required to have "a valid connection to the pertinent inquiry as a precondition to admissibility . . . . [W]here such testimony's factual basis, data, principles, methods, or their application are called sufficiently into question, . . . the trial judge must determine whether the testimony has a reliable basis in the knowledge and experience of [the relevant] discipline." *Id.* at 149 (internal quotations and citations omitted). In other words, a district court is not required "to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert," and "a court may conclude that there is simply too great an analytical gap between the data and the opinion prof-

ferred." *General Electric Company v. Joiner*, 522 U.S. 136, 146 (1998); *Kumho Tire*, 526 U.S. at 158.

## B. Discussion

Black and Decker argues that Smith's opinions "constitute nothing more than conjecture or subjective belief [that] is not grounded in the methods and procedures of science." (Def.'s Mot. at 3.) Black and Decker complains that Smith "did not objectively, reliably, or scientifically evaluate or analyze the facts and data in this case." (*Id.*) Black and Decker accuses Smith of making "assumptions instead of investigating facts or relying upon the evidence as it existed." (*Id.*)

Black and Decker specifically complains that Smith "does not know the amount of resistance that would be required to result in the ignition of a fire because he has not done such calculations." (Def.'s Br. at 7.) Black and Decker contends that Smith "had no evidence of a short circuit in the transformer, no evidence of a short circuit in the [trimmer], and no evidence to suggest that the motor was running at the time this fire ignited." (*Id.*) Black and Decker continues, "[Smith] made no determination regarding the temperature rating of the casing of the [trimmer] . . . [or] the temperature rating on the wiring insulation." (*Id.*) And Black and Decker contends that Smith did "not know the burn pattern or the ignition sequence." (*Id.*)

Black and Decker also takes issue with Smith's opinion that the trimmer was plugged in at the time of the fire. Smith opined that the trimmer needed to be plugged in to cause the fire. Black and Decker complains that Smith relied on the initial Rimkus report to opine that the trimmer was plugged in at the time of the fire without knowing what that report relied upon for its opinions. (*Id.* at 8.) Black and Decker contends that Smith "was not particularly concerned about shadowing on the prongs" of the transformer despite acknowledging that he would expect to see evidence in the form of shadowing on the prongs of the transformer if it had indeed been plugged in when the fire occurred. (*Id.*) Smith, Black and Decker contends, assumed the trimmer was plugged in at the time of the fire instead of relying on objective evidence. Smith acknowledged that the trimmer was found unplugged, but, according to Black and Decker, he "speculated that the transformer was pulled out of the electrical socket and that the power cord came out of the [trimmer] when the [trimmer] fell at some point during the fire." (*Id.* at 9.) Black and Decker contends that Smith did not review the testimony of Tracey Jackson who said the trimmer was on the ground at the time of the fire, but admitted "that such testimony would be inconsistent with his understanding of the situation." (*Id.*) Taken together, Black and Decker argues that "Smith . . . did not objectively, reliably, or scientifically evaluate or analyze the facts and data in this case.

Instead, . . . [he] made assumptions." (*Id.*)

The record shows that Smith has been a licensed professional engineer since 1988 and that he has substantial experience in electrical systems for industrial, residential, municipal, and federal facilities. Smith is also a board-certified diplomat in forensic engineering and a certified fire and explosion investigator.

Smith's experience includes residential and commercial building electrical distribution systems; electronic product design, fabrication, and assembly; electrical code and building code compliance; electrical system failure analysis; appliance and product failures; and structural and vehicular fire and arson investigations. He has a bachelor's in science from Southern Methodist University, and a masters in business administration from the University of Dallas. He has also taken advanced courses or training in fire dynamics, fire origin and causes, and electrical safety requirements and procedures and others. And he is a senior member of the National Academy of Forensic Engineers and a member of the Institute of Electrical and Electronic Engineers, North Texas Fire Investigators Association, and the National Association of Fire Investigators.

Smith participated in the potential destructive examination of the trimmer and of the electrical duplex outlet recovered from the scene of the fire. Prior to the destructive examination, Smith



performed an X-Ray of the fire artifacts recovered from the scene. He also reviewed the initial Rimkus report, the photographs taken of the fire scene, and he spoke with Patrick, who conducted the initial on-site examination. Smith also explained that it is standard operating procedure in Rimkus for their reports and opinions to be subject to peer review. And he explained that he and Rimkus used the accepted NFPA 921 procedures for fire and explosion investigations.<sup>3</sup>

Smith testified that he believed, based on David Jackson's testimony, that the trimmer was sitting on a work bench located near the electrical outlet on the west wall. Smith said the trimmer was plugged into the outlet at the time of the fire. Smith admitted, though, that it was his "best guess" that the cord was approximately six feet long and thus long enough for the trimmer to sit on the work bench and be plugged into the electrical outlet at the same time. He based his guess on how much of the electrical cord from the trimmer to the transformer remained after the fire.<sup>4</sup>

Smith ruled out the electrical outlet as a cause of the fire because he found no evidence that the fire started inside the receptacle. He explained,

[I didn't] see any arching on the wires[.] [I]

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<sup>3</sup> According to the NFPA 921 method, the cause of a fire is generally not known until the end of the investigation and after the investigator has eliminated all other theoretical causes. (Def.'s App. at 97-8.)

<sup>4</sup> David Jackson testified that the trimmer was kept hanging on a hook about four feet from the outlet on the west wall of the garage.

also [saw] evidence that the connections were made by push-in means from the back; back stabbing as it's commonly called in the industry. When that happens, you can get a bad connection if it's not done correctly. I didn't see any indication of a bad connection at the receptacles connectors. If you had a bad connection with a stabbing connection and you don't have any evidence of arching, what else is left that could have caused the fire inside the receptacle.

(Pls.' App. Ex. D, 7.) Smith explained that if the electrical outlet was the cause of the fire, he would expect to see "localized heating on the wire," which he said could be "very easily" determined. (*Id.*) Conversely, Smith said he did see evidence of localized heating in the trimmer "at the point where the three wires came out of the butt . . . of the trimmer . . . ." (*Id.*) He explained that "the plastic around them [the wires] burned away." (*Id.*) He said there were "obvious signs of the coating, the tin plating on the wire, if you will, melting and resolidifying." (*Id.*) And he said there was "evidence of temperature of sufficient degrees to ignite the plastic around it." (*Id.*) Although Smith may have failed to make any determination as to the temperature rating on the wiring insulation, his testimony seems to indicate such a determination may not have been necessary since he found localized heating on the wires of a sufficient temperature to burn away the wires' plastic coating and melt and resolidify the tin

plating.<sup>5</sup>

The evidence also shows that the initial Rimkus report, which Smith relied on in making his opinions, and Smith, employed the accepted scientific method in fire investigations of eliminating all possible causes of a fire before making a cause and origin determination. Both reports show that the experts' investigations included ruling out the electrical outlet on the west wall of the

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<sup>5</sup> Black and Decker would still be free to question Smith on his failure to make a temperature-rating determination to explore, for example, whether a short in the trimmer could produce the amount of heat necessary, or for any other relevant purpose. But such a failure on Smith's part, while available to impeach his expert opinion, does not render his opinion so unreliable as to be inadmissible under Rule 702. The Court notes that Black & Decker's experts also failed to make a temperature-rating determination because they concluded there was no current flowing through the trimmer at the time of the fire. Its experts stated,

The examination revealed that the receptacles for the connector port for the charger unit of the . . . trimmer were not occupied by their mating prongs. As such, the . . . trimmer was not attached to the charger unit at the time of [the] fire . . . . Since the . . . trimmer was not attached to the charger unit, there was no electrical current flowing through the connector port. The connector port represented an open circuit condition; and as such, no electrical current will flow through the connector port. Plaintiff's expert alleged . . . that the fire was caused by "a loose, resistive connection of the hedge trimmer battery to the charging adapter." A "loose, resistive connection" cannot be the source of heat in the absence of electrical current . . . . The electrical condition for the generation of heat through an electrical connection is termed Joule Heat or High Resistive Heating. Joule Heating and High Resistive Heating require a resistance ("R") and [an] electrical current flow[ing] through the resistance ("I"), and these parameters are related by the factor  $I^2R$ . With no electrical current . . . , the current, I, is equal to zero; and the factor  $I^2R$  is equal to zero.

(Def.'s App. at 78.)

The Court also notes that Smith said that calculating the temperature rating could only be done if certain other parameters were known. (Def.'s App. at 37.) He explained that although the transformer rated at 340 milliamps, that did not "mean that's all the transformer can put out, under a short-circuit condition, for example, or a condition where the batteries are totally discharged and, perhaps, even faulty. It [the transformer] can put out considerably more current than that. It's rated at 340 milliamps for normal use . . . ." (*Id.*)

garage, the electrical service entrance and meter, the water heater, and the two cars parked inside the garage during the fire. Smith also testified that he ruled out the transformer as a cause of the fire based on testing he had done on the transformer and a visual examination.<sup>6</sup> When he physically examined the electrical outlet recovered from the west wall of the Jackson's garage, he classified it as "unremarkable" from a causation standpoint. (Pls.'s App. at Ex. D, 6.) He explained,

I [didn't] see any beading on the wires . . . .  
. And, in fact, . . . the wires themselves  
are in reasonable shape considering that they  
were exposed to a fire . . . . [T]he insula-  
tion is gone off the wires, but there's no  
evidence . . . that arching occurred between  
them, even though some of the wires are touch-  
ing various places.

(*Id.*)

Black and Decker complains that Smith did not know or determine the ignition sequence for the fire. Smith testified, however, that he believed the fire started in the trimmer and that the orange plastic cover for the trimmer was the initial fuel for

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<sup>6</sup> Smith testified that when he examined the transformer, he found no evidence that "it had been heated from the inside, which is what you would expect . . . if it had been the cause of the fire." (Pls.' App. at Ex. D, 5.)

the fire.<sup>7</sup> He explained that he could not determine what ignited after that because he did not know what was around the trimmer when the fire started. But the evidence clearly shows that there could have been numerous items located near the trimmer that could have contributed additional fuel for the fire in the Jacksons' garage.

It is also interesting to note that, while Smith opines that the trimmer caused the fire, he did not render an opinion as to whether the trimmer had a defect. Smith testified that he had not been asked to examine the trimmer for any product defects in its manufacture and therefore had no opinion as to whether it was defective or not.

After reviewing Smith's opinion and his testimony regarding the method he used and the analyses he conducted, and applying the factors listed in *Daubert*, the Court concludes that Smith's expert testimony has a reliable basis in the knowledge and experience of

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<sup>7</sup> The evidence shows that although many items in the garage were nearly completely burned, the trimmer, the alleged cause of the fire, remained largely intact. Explaining how that could happen, Smith said,

We've talked about flame retardancy built into the plastic [referring to the orange plastic covering to the trimmer], which works except to the localized area, in this case, where the fire started, and . . . up on top here, too. This, I believe, was because of the exposure to a continuing flame. This was caused by heat from the resistive connection, which drove out the flame retardancy properties that were here originally. They were still in the rest of the body so that when the flame was removed from here, for example, it stopped propagating within a very short period of time.

(Pls.' App. at D, 9.) Black and Decker's experts opine that the relatively preserved nature of the trimmer compared to other items in the garage could be attributed to the fact that during the fire, insulation fell from the walls or ceiling covering the trimmer. That insulation would have insulated the trimmer from further exposure to the fire. While that is certainly a legitimate competing theory, it does not render Smith's opinion unreliable.

the relevant discipline and that it will assist the trier of fact in deciding the issues in this case. The Court understands that Smith's opinion stands in contrast to the expert opinions offered through Black and Decker's experts. Nevertheless, the Court concludes that Smith's testimony and opinion does not fall "outside the range where experts might reasonably differ . . . ." *Kumho*, 526 U.S. at 153.

### III. Conclusion

For the forgoing reasons, Black and Decker's motion to strike the expert opinion of the Jacksons' expert, Lacie Smith, is DENIED.

SIGNED March 10, 2008.

  
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TERRY R. MEANS  
UNITED STATES DISTRICT JUDGE